

Claims

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1. A method of interventional or intraoperative MRI wherein an invasive device is inserted into the vasculature of a human or non human animal (e.g. mammalian, avian or reptilian) body or through vascularised tissue in said body and an MR image of at least a part of said body containing said device is generated, the improvement comprising administering a contrast agent into the vasculature of said body either by direct injection of the contrast agent through said device or by i.v. injection of the contrast agent directly into the patient whereby to facilitate visualisation of said device in said image.
  2. A method of claim 1 wherein said contrast agent is a blood pool contrast agent.
  3. A method as claimed in claims 1 or claim 2 wherein the difference in at least one parameter chosen from  $T_1$ ,  $T_2$  and  $T_2^*$  between the blood and said device is utilised to generate image contrast between the blood and said device.
  4. A method as claimed in any of claims 1 to 3 wherein said device is filled with a diamagnetic material or a paramagnetic material.
  5. A method as claimed in any of claims 1 to 4 wherein said contrast agent enhances the  $T_1$  and/or  $T_2^*$  relaxation properties of the blood relative to that of said device.
  6. A method as claimed in claim 5 wherein the  $T_1$  relaxation property of the blood is enhanced relative to that of said device and wherein  $T_1$ -weighted sequences are used and said device filled with diamagnetic material so that the blood appears bright in said image, relative to said device.

7. A method as claimed in claim 5 wherein the  $T_2^*$  relaxation property of the blood is enhanced relative to that of said device and wherein  $T_2^*$ -weighted sequences are used and said device filled with paramagnetic material so that said device appears bright in said image, relative to the blood.

8. A method as claimed in any of claims 1 to 7 wherein said contrast agent is magnetic iron oxide blood pool contrast agent.

9. A method as claimed in any of claims 1 to 8 wherein said contrast agent comprises superparamagnetic iron oxide particles having on their surfaces degraded starch and optionally a material which inhibits opsonization.

10. A method as claimed in any of claims 1 to 9 wherein said device is chosen from catheters, balloons, optical fibres, guide wires, needles, biopsy needles, electrodes, electrode leads, implants, stents and stent grafts.

11. A method as claimed in any of claims 1 to 10 wherein said device is not marked with a magnetic susceptibility agent.

12. The use of a blood pool MR contrast agent for the manufacture of a parenterally administrable MR contrast medium for use in a method of surgery or therapy wherein an invasive device is inserted into the vasculature of a human or non human animal body or through vascularised tissue in said body and an MR image of at least a part of said body containing said device is generated, said method also comprising administering said contrast medium into the vasculature of said body whereby to facilitate visualisation of said device in said image.

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